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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,788	09/10/2003	John Geoffrey Chan	9041M	5575
27752	7590	10/01/2004		
THE PROCTER & GAMBLE COMPANY INTELLECTUAL PROPERTY DIVISION WINTON HILL TECHNICAL CENTER - BOX 161 6110 CENTER HILL AVENUE CINCINNATI, OH 45224			EXAMINER COLE, LAURA C	
			ART UNIT	PAPER NUMBER
			1744	

DATE MAILED: 10/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/659,788

Applicant(s)

CHAN, JOHN GEOFFREY

Examiner

Laura C Cole

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received:

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered. Specifically, the Examiner was unable to consider one document made reference to in the specification, WO 01/29128.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because it is not the minimum of 50 words in length. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 7-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claims 7-8, 11, and 16 it is unclear as to what is meant by "fully engage." Is "fully engage" the point at which the engagement member of the housing and the annular engagement surface of the brush head are securely attached or is it defined as when the first and second threads cannot be rotated any further in respect to each other? If it is the latter, then it appears that there are at least four revolutions of the first and second threads in Figures 7A-7C so in that case would "fully engage" go above and beyond the claimed 540 degrees?

Claims 9 and 17 recites the limitation "the tab" in Line 2. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 4-5, 7-8, 11, 14, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Rogers, USPN 2,278,095.

Rogers discloses the claimed invention including a housing (1) defining a hollow interior (see Figure 3) having a motor (2) and a first shaft disposed therein that is operatively connected to the motor (shaft "17" is operatively connected to the motor via "5", see Figure 3), the housing having an engagement member extending along a longitudinal axis of the housing from an end thereof (7), the engagement member including a first thread helically extending about the engagement member (see Figure 3; Column 1 Lines 41-43), a brush head (11) having a movable bristle carrier at a first end (20 or 24, see Figures 1-2) and a second shaft (13) operatively connected to the movable brush carrier (see gear train in Figures 1 and 3; Column 1 Line 28-Column 2 Line 22), the brush head having a receiving region at a second end of the brush head opposite the first end (9), the receiving region having an engagement surface with a second thread helically extending along the annular engagement surface (Figure 3; Column 1 Lines 41-43), wherein the first thread and second threaded connection releaseably couples the brush head to the handle when one of the handle or head is rotated about the longitudinal axis (Column 1 Lines 41-47, specifically that the bayonet slot "12" receives a pin "10" on the threaded sleeve "9" so that the handle piece is detachably connected to the casing.) The second shaft is deflectable (at least rotary deflectable since it is capable of communicating rotary movement, Column 1 Line 52-Column 2 Line 4) and the first shaft has a cylindrically-shaped tip (see Figure 3). One of either the brush head or handle must inherently be rotated between about 180 degrees and 540 degrees, specifically 270 degrees to 450 degrees to *fully engage* the first thread and second thread because in order for the first and second thread to be fully

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engaged it must rotate one revolution or 360 degrees. Rogers shows multiple threads (as does the Applicant in Applicant's figures 7A-7C) so in order for the threads to be fully engaged (to prevent separation of the engagement member from the annular engagement surface), one must rotate either the brush head or handle 360 degrees so that the threaded surfaces are fully engaged.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claims 2 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rogers, USPN 2,278,095.

Rogers discloses all elements above, however does not disclose that the threads have a pitch between about 2mm and 3mm. Rogers does disclose threads (Column 1 Lines 41-43) that inherently have a quantity of pitch. It would have been obvious for one of ordinary skill in the art to have the threads have a pitch of about 2mm and 3mm

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since the threads of Rogers would be expected to perform in such a manner to secure an engagement member to an engagement surface. Also, "where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device." *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984). See also MPEP 2144.04 (IV) A.

6. Claims 3 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rogers, USPN 2,278,095 in view of Porper et al., USPN 6,138,310.

Rogers discloses all elements above, however does not disclose that first or second shafts reciprocate.

Porper et al. disclose an electric toothbrush that includes a reciprocating motion (32) for cleaning teeth. The reciprocating motion is provided either by the motor or a drive transmission or shaft driven by the motor (Column 6 Lines 3-9 and Column 7 Lines 35-44).

It would have been obvious for one of ordinary skill in the art to modify the drive means of Rogers for one that transmits a reciprocating motion to the first and second shafts, such as the drive system that Porper et al. teach, so that the brush head can impart reciprocal movement on the user's teeth surfaces for cleaning.

7. Claims 1, 3-9, 11, and 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kressner, USPN 5,289,604 in view of Rogers, USPN 2,278,095.

Kressner discloses the claimed invention including a housing (22) defining a hollow interior (18; Column 4 Lines 38-45) having a motor (28) and a first shaft disposed therein that is operatively connected to the motor (23), the housing having an engagement member extending along a longitudinal axis of the housing from an end thereof (27 and 68; Column 5 Lines 31-36), a brush head (24) having a movable bristle carrier at a first end (38) and a second shaft (34) operatively connected to the movable brush carrier (Column 4 Lines 21-23), the brush head having a receiving region at a second end of the brush head opposite the first end (69), the receiving region having an engagement surface, wherein the engagement member and engagement surface releaseably couples the brush head to the handle when one of the handle or head is connected (Abstract.) The first and second shafts are able to reciprocate (Column 4 Lines 7-12). The second shaft (34) is deflectable (Column 6 Lines 63-66). The second shaft has a tab (52) and the first shaft has a notch (54) that engages the tab to couple the first and second shafts (Column 5 Lines 50-62). The second shaft has an arm (5) wherein the tab (52) is disposed on that arm (see Figure 6C). Kressner does not disclose that the engagement member includes a first thread helically extending about an engagement member or an engagement surface with a second thread helically extending along the annular engagement surface. Also, Kressner does not include that the first shaft has a cylindrically-shaped tip.

Rogers discloses all elements above, including a connection that releasably couples the brush head to the handle, a first drive shaft to a second drive shaft, the couple formed by an engagement member having a first thread helically extending

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about the engagement member and an annular engagement surface having a second thread helically extending around the annular engagement surface. Further, one of either the brush head or handle must inherently be rotated between about 180 degrees and 540 degrees, specifically 270 degrees to 450 degrees to *fully engage* the first thread and second thread because in order for the first and second thread to be fully engaged it must rotate one revolution or 360 degrees. Rogers shows multiple threads (as does the Applicant in Applicant's figures 7A-7C) so in order for the threads to be fully engaged (to prevent separation of the engagement member from the annular engagement surface), one must rotate either the brush head or handle 360 degrees so that the threaded surfaces are fully engaged.

It would have been obvious for one of ordinary skill in the art to substitute the engagement member and engagement surface of Kressner for one having first and second helically extending threads located thereon, as Rogers teaches, as a means to detachably and securely connect a handle having a first shaft with a brush head having a second shaft. Also, it would have been obvious for one of ordinary skill in the art to modify the first shaft to have a cylindrically shaped tip since the Applicant has not disclose that a cylindrically-shaped tip is used for a particular purpose, or solves a stated problem. One of ordinary, furthermore would have expected the Applicant's invention to perform equally well with the semi-cylindrically shaped tip of Kressner because they both serve to transmit torque of the first shaft to the second shaft.

8. Claims 2 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kressner, USPN 5,289,604 in view of Rogers, USPN 2,278,095.

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Kressner and Rogers disclose all elements above, however do not disclose that the threads have a pitch between about 2mm and 3mm. Rogers does disclose threads (Column 1 Lines 41-43) that inherently have a quantity of pitch. It would have been obvious for one of ordinary skill in the art to have the threads have a pitch of about 2mm and 3mm since the threads of Rogers would be expected to perform in such a manner to secure an engagement member to an engagement surface. Also, "where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device." *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984). See also MPEP 2144.04 (IV) A.

Allowable Subject Matter

9. Claims 10 and 18 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

None of the prior art made of record includes the electric toothbrush having a housing with an engagement member and a first shaft, a brush head having an engagement surface and a resilient second shaft, further comprising the handle having an annular gap between an outer surface of the first shaft and an inner surface of a handle for receiving the tab and at least a portion of the arm and wherein the annular gap extends about the entire perimeter of the first shaft.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

USPN 1,947,324 to Zerbee is a rotating toothbrush that includes a head member that is threadably attached to a handle member. However, the handle does not include a shaft disposed therein that is connected to a motor.

USPN 2,808,602 to Gregoire is an electrical toothbrush that includes a head member and handle, however there is not a thread on an engagement member of the housing or on an engagement surface of the brush head.

USPN 3,039,123 to Brucker et al. is a powered toothbrush that includes a housing having a first shaft and an engagement member having a first thread helically extending about the member, a brush head having a movable bristle carrier and a second shaft operatively connected to the movable bristle carrier, the brush having a receiving region having an engagement surface with a second thread helically extending along the annular engagement surface. Brucker et al. does not include that the first shaft is operatively connected to a motor. The first shaft and second shafts of Brucker et al. form a wall for water or fluid to flow around, the fluid transmits the rotational energy to the bristle carrier.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura C Cole whose telephone number is (571)-272-1272. The examiner can normally be reached on Monday-Thursday, 7:30am - 5pm, alternating Fridays.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J Warden can be reached on (571) 272-1281. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LCC
LCC
27 September 2004


Terrence R. Till
Primary Examiner